

An Open Letter from California Scientists and Engineers on

Advanced Clean Cars and Reducing Heat-Trapping Emissions







We write to urge California leaders to seize the opportunity, once again, to demonstrate that the nation can begin to meet the climate challenge by adopting strong policies that will further reduce heat-trapping emissions from cars and trucks.

The causes and risks of climate change are clear and well documented. In May 2010, a report by the U.S. National Academy of Sciences concluded "Climate change is occurring, is caused largely by human activities, and poses significant risks for—and in many cases is already affecting—a broad range of human and natural systems."

Global average surface temperatures have increased at a rate of 0.7°C (1.3°F) per century since 1900, with the rate accelerating to approximately 0.16°C (0.29°F) per decade since 1970,¹ and impacts are now being observed worldwide.² These temperature changes, driven by human-caused emissions, have locked in further changes, such as sea-level rise that intensifies coastal flooding and dramatic changes in snowpack that risk disrupting water supplies in the western United States.³ If emissions continue unabated, California will face continued warming with more temperature extremes, faster sea-level rise, increasing risks and cost for agriculture, and severe public health challenges for at-risk populations.⁴

The longer we wait to bring down emissions, the harder and more costly it will be to limit climate change impacts and to adapt to those that cannot be avoided. We already have the solutions and technology to start significantly reducing emissions.

Informed by the threats to California from climate change, the state has set a long-term goal to reduce its heat-trapping emissions 80 percent below 1990 levels by 2050. Cars, trucks, and other mobile sources account for nearly 40 percent of these emissions in California.⁵

We urge you to adopt policies that will reduce heat-trapping emissions from cars and trucks over the next decade and beyond, while promoting advancements in vehicle and fuel technologies that will create jobs and will be needed to meet the state's long-term emissions reductions goals.

¹ Blunden, J., D.S. Arndt, and M.O. Baringer. 2011. State of the climate in 2010. Bulletin of the American Meteorological Society 92:S1–S236. DOI:10.1175/1520-0477-92.6.S1.

² Solomon, S., D. Qin, M. Manning, R.B. Alley, T. Berntsen, N.L. Bindoff, Z. Chen, A. Chidthaisong, J.M. Gregory, G.C. Hegerl, M. Heimann, B. Hewitson, B.J. Hoskins, F. Joos, J. Jouzel, V. Kattsov, U. Lohmann, T. Matsuno, M. Molina, N. Nicholls, J. Overpeck, G. Raga, V. Ramaswamy, J. Ren, M. Rusticucci, R. Somerville, T.F. Stocker, P. Whetton, R.A. Wood, and D. Wratt. 2007. Technical Summary. In Climate change 2007: The physical science basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, edited by S. Solomon, D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller. Cambridge, UK: Cambridge University Press.

³ Barnett, T.P., D.W. Pierce, H.G. Hidalgo, C. Bonfils, B.D. Santer, T Das, G. Bala, A.W. Wood, T. Nozawa, A.A. Mirin, D.R. Cayan, and M.D. Dettinger. 2008. Human-induced changes in the hydrology of the western United States, Science 319(5866):1080–1083. DOI: 10.1126/science.1152538.

⁴ Moser, S., G. Franco, S. Pittiglio, W. Chou, and D. Cayan. 2009. The future Is now: An update on climate change science impacts and response options for California. Prepared for California Energy Commission, Public Interest Energy Research Program. CEC-500-2008-071. Online at www.energy.ca.gov/2008publications/CEC-500-2008-071/CEC-500-2008-071/CEC-500-2008-071.PDF.

⁵ California Air Resources Board. Greenhouse Gas Emission Inventory Data—2000 to 2008. Online at www.arb.ca.gov/cc/inventory/data/data.htm, accessed November 10, 2011

The signers of this statement are scientists and engineers who live or work in California. Scientists have published and have a Ph.D. or are in a Ph.D. program. Engineers have a Ph.D., a master's degree with at least five years of career experience, or a bachelor's degree with at least 10 years of career experience.

All signers have expertise relevant to our understanding of climate change, its impacts, or solutions.

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"Only a very few years remain in which drastic reductions in global emissions must begin if warming is to be limited to 2°C or any other reasonable level. The world is squandering valuable time, and time is running out."

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"Our energy choices yesterday have ensured the warming of today and the next few decades. That means we have to prepare for the impacts of climate change that are now inevitable. At the same time, we are shaping—today the climate of the decades ahead. Our choices now will determine how hot it gets and how much more climate change we will have to cope with. For me, there is no question that we need state and federal policy to support the right choices we each make today to reduce heat-trapping gases."

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Compiled by the Union of Concerned Scientists on behalf of the signers of this letter.

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